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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,178	12/07/2001	John Loyd Spence	PK-US015147	6911

22919 7590 12/20/2002

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EXAMINER

PICKARD, ALISON K

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,178

Applicant(s)

SPENCE ET AL.

Examiner

Alison K. Pickard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2001 ⁴⁵⁻²⁻⁰² is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 (line 12) and 19, "the third annular section" lacks antecedent basis.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the convexly curved surfaces extending though an arc of about 60 degrees must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-3, 5, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Halling (4,779,901).

Halling discloses a metallic seal comprising a first annular end section 84 having a first sealing surface facing a first direction (facing 52) and contacting a first member 24 to create a first annular sealing dam. The seal comprises a second annular end section 86 having a second annular sealing surface facing a second direction (facing 76), opposite the first, and contacting a second member 58 to create a second annular sealing dam. An annular center section 82 extends between the first and second end section to form a ring. The center has a central passage and a center longitudinal axis. The center section has a frusto-conical shape. The first and second end sections are contiguously arranged at opposite ends of the center section. The first and second ends sections are convexly curved surfaces that are inverted with respect to a center plane perpendicular to the axis. The metallic seal is torsionally flexible and therefore any deformation is due to torsional stress. As seen in Figures 1 and 2, the first and second directions of the sealing surfaces are arranged parallel to the center axis. In Figures 6 and 7, the first (toward 128) and second (toward 178) directions of the sealing surfaces are arranged to face radially (or perpendicularly) relative to the axis. In either embodiment, the first and second sealing surfaces are in planes that are substantially parallel to each other. In column 5, lines 17-22, Halling discloses the metallic seal is the same seal disclosed in Halling (4,457,523). Therefore, the seal is made of a corrosion resistant alloy such as INCONEL, which is a nickel-based alloy (see Halling '532 col. 4, lines 14-15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 6-11, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halling '901.

Regarding claims 4 and 10, Halling does not disclose that the sealing surfaces are spaced by a first distance measured parallel to the axis equal to a second distance measured perpendicular to the axis between the sealing surfaces. This is considered a design choice.

Regarding claims 6 and 18, Halling does not disclose that the curved surfaces extend through an arc of about 60 degrees. This is considered a design choice.

Regarding claims 7, 11, and 17, Halling does not disclose that the center section has a slope of about 45 degrees with respect to the axis. This is considered a design choice.

It is not considered inventive to discover the workable or optimum ranges by routine experimentation. See *In re Aller*, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the sealing surfaces spaced by a first distance measured parallel to the axis equal to a second distance measured perpendicular to the axis between the sealing surfaces, the curved surfaces extend through an arc of about 60 degrees, and the center section have a slope of about 45 degrees with respect to the axis as matter of choices in design.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art discloses various metallic seals with s-shapes and torsional deformation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 703-305-0882. The examiner can normally be reached on M-F (9-6:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-8729327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1113.


Alison K. Pickard
Examiner
Art Unit 3676

AP
December 14, 2002